

ABSTRACT:

A micromechanical electrostatic actuator, having a multiplicity of parallel plates, for general use in micromechanical devices such as microgrippers. High force is due to the large confronting area of the charged plates, and large displacement for the stack as a whole is due to the cumulative displacements of the individual plates. The electrical pathways connecting plates of like polarity are provided by folded cantilever beams at the periphery. Mechanical connection between adjacent plates is provided by electrically insulated compliant cantilever beams at the periphery, or alternatively by an open cell foam between the confronting plates.